

SEQUENCE LISTING

<110> National Institute of Advanced Industrial Science and Technology

<120> Lethal gene markers for transformant selection

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<160> 24

<170> PatentIn Ver. 2.1

<210> 1

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 1

gctgatgctg cattgagttc tgctatgg

28

<210> 2

<211> 57

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 2

gttaaatacca atttaagtcc cataacttgg ccgctatggc ctcaaagata tttcttg 57

<210> 3

<211> 57

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 3

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<210> 4

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 4

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28

<210> 5

<211> 43

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 5

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<211> 34

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 6

cgatgaattc tcaccaatca ccatcagat aatc

34

<210> 7

<211> 598

<212> DNA

<213> E.coli

<400> 7

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cagaatggtg gtggaaaacg caagcgctgg actggagata aagggcgtaa gatttatgag 180
tgggattctc agcatggtga gcttgagggg tatcgtgcca gtgatggtca gcatcttggc 240
tcatttgacc ctaaaacagg caatcagttg aaaggtccag atccgaaacg aaatatcaag 300
aaatatcttt gaggccatag cggccaagtt atgggactta aattggattt aacttggttt 360
gataaaagta cagaagattt taagggtgag gagtattcaa aagatttttg agatgacggt 420
tcagttatgg aaagtctagg tgtgcctttt aaggataatg ttaataacgg ttgctttgat 480
gttatagctg aatgggtacc tttgctacaa ccatacttta atcatcaaat tgatatttcc 540
gataatgagt attttgttcc gtttgattat cgtgatggtg attggtgaga attcatcg 598

<210> 8

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 8

tagtagtagt agtagaaagg ttttaaagat tacgggcatg

40

<210> 9

<211> 46

<212> DNA

<213> E.coli

<400> 9

gcatggccgc ctcggccgta gaaaggtttt aaagattacg ggcattg

46

<210> 10

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

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49

<210> 11

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 11

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52

<210> 12

<211> 55

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 12

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55

<210> 13

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer

<400> 13

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<210> 14

<211> 607

<212> DNA

<213> E.coli

<400> 14

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<210> 15

<211> 258

<212> DNA

<213> E.coli

<400> 15

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aaggataatg ttaataacgg ttgctttgat gttatagctg aatgggtacc tttgctacaa 180
ccatacttta atcatcaaT tgatatttcc gataatgagt attttgtttc gtttgattat 240
cgtgatgggtg attggtga 258

<210> 16

<211> 3066

<212> DNA

<213> E.coli

<400> 16

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cccgccaaca catcacgggc cacaaaattt tttgtggccc gctctgcgtt ttctaagtgt 180
tatccctcct gatttctaaa aaattttcca cctgaacttg acagaaaaaa cgatgacgag 240

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 cgatcg 3066

<210> 17

<211> 551

<212> PRT

<213> E.coli

<400> 17

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1 5 10 15

Ser Gly Asn Ile Asn Gly Gly Pro Thr Gly Leu Gly Val Gly Gly Gly
20 25 30

Ala Ser Asp Gly Ser Gly Trp Ser Ser Glu Asn Asn Pro Trp Gly Gly
35 40 45

Gly Ser Gly Ser Gly Ile His Trp Gly Gly Gly Ser Gly His Gly Asn
50 55 60

Gly Gly Gly Asn Gly Asn Ser Gly Gly Gly Ser Gly Thr Gly Gly Asn
65 70 75 80

Leu Ser Ala Val Ala Ala Pro Val Ala Phe Gly Phe Pro Ala Leu Ser
85 90 95

Thr Pro Gly Ala Gly Gly Leu Ala Val Ser Ile Ser Ala Gly Ala Leu
100 105 110

Ser Ala Ala Ile Ala Asp Ile Met Ala Ala Leu Lys Gly Pro Phe Lys
115 120 125

Phe Gly Leu Trp Gly Val Ala Leu Tyr Gly Val Leu Pro Ser Gln Ile

130	135	140	
Ala Lys Asp Asp Pro Asn Met Met Ser Lys Ile Val Thr Ser Leu Pro			
145	150	155	160
Ala Asp Asp Ile Thr Glu Ser Pro Val Ser Ser Leu Pro Leu Asp Lys			
	165	170	175
Ala Thr Val Asn Val Asn Val Arg Val Val Asp Asp Val Lys Asp Glu			
	180	185	190
Arg Gln Asn Ile Ser Val Val Ser Gly Val Pro Met Ser Val Pro Val			
	195	200	205
Val Asp Ala Lys Pro Thr Glu Arg Pro Gly Val Phe Thr Ala Ser Ile			
	210	215	220
Pro Gly Ala Pro Val Leu Asn Ile Ser Val Asn Asn Ser Thr Pro Ala			
225	230	235	240
Val Gln Thr Leu Ser Pro Gly Val Thr Asn Asn Thr Asp Lys Asp Val			
	245	250	255
Arg Pro Ala Gly Phe Thr Gln Gly Gly Asn Thr Arg Asp Ala Val Ile			
	260	265	270
Arg Phe Pro Lys Asp Ser Gly His Asn Ala Val Tyr Val Ser Val Ser			

	275	280	285
Asp Val Leu Ser Pro Asp Gln Val Lys Gln Arg Gln Asp Glu Glu Asn			
290	295	300	
Arg Arg Gln Gln Glu Trp Asp Ala Thr His Pro Val Glu Ala Ala Glu			
305	310	315	320
Arg Asn Tyr Glu Arg Ala Arg Ala Glu Leu Asn Gln Ala Asn Glu Asp			
	325	330	335
Val Ala Arg Asn Gln Glu Arg Gln Ala Lys Ala Val Gln Val Tyr Asn			
	340	345	350
Ser Arg Lys Ser Glu Leu Asp Ala Ala Asn Lys Thr Leu Ala Asp Ala			
355	360	365	
Ile Ala Glu Ile Lys Gln Phe Asn Arg Phe Ala His Asp Pro Met Ala			
370	375	380	
Gly Gly His Arg Met Trp Gln Met Ala Gly Leu Lys Ala Gln Arg Ala			
385	390	395	400
Gln Thr Asp Val Asn Asn Lys Gln Ala Ala Phe Asp Ala Ala Ala Lys			
	405	410	415
Glu Lys Ser Asp Ala Asp Ala Ala Leu Ser Ser Ala Met Glu Ser Arg			

	420	425	430
Lys Lys Lys Glu Asp Lys Lys Arg Ser Ala Glu Asn Asn Leu Asn Asp			
435	440	445	
Glu Lys Asn Lys Pro Arg Lys Gly Phe Lys Asp Tyr Gly His Asp Tyr			
450	455	460	
His Pro Ala Pro Lys Thr Glu Asn Ile Lys Gly Leu Gly Asp Leu Lys			
465	470	475	480
Pro Gly Ile Pro Lys Thr Pro Lys Gln Asn Gly Gly Gly Lys Arg Lys			
	485	490	495
Arg Trp Thr Gly Asp Lys Gly Arg Lys Ile Tyr Glu Trp Asp Ser Gln			
	500	505	510
His Gly Glu Leu Glu Gly Tyr Arg Ala Ser Asp Gly Gln His Leu Gly			
	515	520	525
Ser Phe Asp Pro Lys Thr Gly Asn Gln Leu Lys Gly Pro Asp Pro Lys			
	530	535	540
Arg Asn Ile Lys Lys Tyr Leu			
545	550		

<210> 18

<211> 110

<212> PRT

<213> E.coli

<400> 18

Ala Glu Asn Asn Leu Asn Asp Glu Lys Asn Lys Pro Arg Lys Gly Phe

1

5

10

15

Lys Asp Tyr Gly His Asp Tyr His Pro Ala Pro Lys Thr Glu Asn Ile

20

25

30

Lys Gly Leu Gly Asp Leu Lys Pro Gly Ile Pro Lys Thr Pro Lys Gln

35

40

45

Asn Gly Gly Gly Lys Arg Lys Arg Trp Thr Gly Asp Lys Gly Arg Lys

50

55

60

Ile Tyr Glu Trp Asp Ser Gln His Gly Glu Leu Glu Gly Tyr Arg Ala

65

70

75

80

Ser Asp Gly Gln His Leu Gly Ser Phe Asp Pro Lys Thr Gly Asn Gln

85

90

95

Leu Lys Gly Pro Asp Pro Lys Arg Asn Ile Lys Lys Tyr Leu

100

105

110

<210> 19

<211> 97

<212> PRT

<213> E.coli

<400> 19

Lys Gly Phe Lys Asp Tyr Gly His Asp Tyr His Pro Ala Pro Lys Thr

1

5

10

15

Glu Asn Ile Lys Gly Leu Gly Asp Leu Lys Pro Gly Ile Pro Lys Thr

20

25

30

Pro Lys Gln Asn Gly Gly Gly Lys Arg Lys Arg Trp Thr Gly Asp Lys

35

40

45

Gly Arg Lys Ile Tyr Glu Trp Asp Ser Gln His Gly Glu Leu Glu Gly

50

55

60

Tyr Arg Ala Ser Asp Gly Gln His Leu Gly Ser Phe Asp Pro Lys Thr

65

70

75

80

Gly Asn Gln Leu Lys Gly Pro Asp Pro Lys Arg Asn Ile Lys Lys Tyr

85

90

95

Leu

<210> 20

<211> 330

<212> DNA

<213> E.coli

<400> 1

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caaagcagaa tgggtggtgga aaacgcaagc gctggactgg agataaaggg cgtaagattt 180
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ttggctcatt tgaccctaaa acaggcaatc agttgaaagg tccagatccg aaacgaaata 300
tcaagaaata tctttgaggc catagcggcc 330
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<210> 21

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter

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gacccccggg taccgaggcc gcctcggccg agctcgaatt cggccggcca tagcgccgc 60
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<210> 22

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter

<400> 3

aattgaggcc gctatggccg gccgaattcg agctcggccg aggcggcctc ggtacccggg 60

<210> 23

<211> 650

<212> DNA

<213> *S.cerevisiae*

<400> 4

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ttcgttgga ttttatgccc agggatgctc ttcattggatt tgatttgtct gaagaggatg 540
 acatgtcgga tggcttgccc ttcctgaaaa cggaccccaa caataatggg ttctttggcg 600
 acggttctct cttatgtatt cttcgctgac tgactgagge catagcggcc 650

<210> 24

<211> 535

<212> DNA

<213> A. oryzae

<400> 5

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